

## **IN THE CLAIMS**

This listing of the claim will replace all prior versions and listings of claim in the present application.

### **Listing of Claims**

Claims 1-6 (canceled).

7. (currently amended)     A control method of assigning a channel to a plurality of modem processing means of a radio frequency (RF) base station to demodulate a base band received signal and modulate a transmit data signal, said modem processing means each operating in a time-multiplexing manner, said control method comprising the steps of:

converting a plurality of carrier frequency band signals received by a plurality of antennas provided in said RF base station to a plurality of base band received signals in a RF unit;

storing a plurality of said base band received signals in a buffer memory; and  
assigning a respective channel to a respective modem processing means for demodulating said base band received signals and for modulating said transmit data signals, including the steps of:

(a) enabling a controller to check the loads of a plurality of said modem processing units, and

(b) assigning a channel to a modem processing means still having a minimum level of load margin if there are a plurality of said modem processing means still having a load margin, respectively~~The control method according to claim 3,~~

wherein channel assignment to a plurality of said modem processing means is in a hand-over processing executed by a RF mobile station moving from a first sector controlled by said RF base station to a second sector so that a second channel for demodulating a second signal received by a second antenna of said RF base station ~~is assigned to a modem processing means of said RF base station to which~~ and a first channel for demodulating a first signal received by a first antenna is are assigned a same modem processing means, said first signal being transmitted from said RF mobile station and forming a first sector, said second signal being transmitted from said RF mobile station and forming a second sector, and

wherein said same modem processing means of said RF base station combines said first signal received by the first antenna and said second signal received by the second antenna to output a combined signal.

8. (previously presented) The control method according to claim 7, wherein the load of a modem processing means is checked before said second channel is assigned to said modem processing means so as not to assign said second channel to said modem processing means when said modem processing means is loaded inversely.

Claims 9 and 10 (cancelled).

11. (currently amended) A control method of assigning a channel to execute a hand-over processing of a radio frequency (RF) mobile station moving

from a first sector controlled by a first antenna of an RF base station to a second sector controlled by a second antenna of said RF base station,

wherein said first channel for demodulating said first signal received by said first antenna from said RF mobile station and said second channel for demodulating said second signal received by said second antenna from said RF mobile station are assigned to a same modem processing unit~~The control method according to claim 10,~~

wherein said channel assignment is performed in said hand-over processing so that channel assignment to a plurality of modem processing units of an RF base station is changed, whereby if the second channel cannot be assigned to a modem processing unit to which the first channel is currently assigned, the first and the second channels are assigned to another modem processing unit capable of accommodating both the first and the second channels.

Claim 12 (cancelled).

13. (currently amended) A control method of assigning a channel comprising the step of:

assigning a first channel for demodulating a first frequency signal of a radio frequency (RF) mobile station, received by a first antenna of a RF base station from said RF mobile station, and a second channel for demodulating a second frequency signal of said RF mobile station, received by a second antenna of said RF base

station from said RF mobile station, to a same modem processing unit of said RF base station  
The control method according to claim 12,

wherein said channel assignment is performed so that channel assignment to a plurality of said modem processing means of said RF base station is changed, whereby if the second channel cannot be assigned to a modem processing unit to which the first channel is currently assigned, the first and the second channels are assigned to another modem processing unit capable of accommodating both the first and the second channels.

14. (new) The control method according to claim 11, wherein an assignment of said first channel is released after successfully processing said first channel and said second channel in said another modem processing unit.

15. (new) The control method according to claim 7, wherein the assignment of said first channel and said second channel to said same modem processing means is performed after said first channel and said second channel are temporarily assigned to two different modem processing means, and a switching timing from said two different modem processing means to said same modem processing means is determined as a timing that is two frames after an arrival of a switching command to each of said two different modem processing means.

16. (new) The control method according to claim 7, wherein the assignment of said first channel and said second channel to said same modem

processing means is performed after said first channel and said second channel are temporarily assigned to two different modem processing means, and before switching from said two different modem processing means to said same modem processing means, a transmission signal from said RF mobile station is modulated and its transmission power is set to zero, and after the switching is performed said transmission power is turned on.